

# Abstract

A probe is described for determining an oxygen concentration in a gas mixture, in particular in the exhaust gas of internal combustion engines, having a Nernst measuring cell, which has a first electrode (Nernst electrode) which is exposed to the gas mixture to be measured via a diffusion barrier, a second electrode (reference electrode) which is exposed to a reference gas, and a solid electrolyte body arranged between the first and the second electrode, and having a pump cell, which has a first electrode (inner pump electrode) which is exposed to the gas mixture via the diffusion barrier, a second electrode (outer pump electrode) which is exposed to the gas mixture, and a solid electrolyte body arranged between the first and the second electrode, the Nernst electrode and the inner pump electrode being connected at least in some sections via a joint supply conductor to a circuit arrangement for controlling and evaluating the probe.

A joint supply conductor resistor (R) of the Nernst electrode (16) and of the inner pump electrode (38) is formed by a loaded voltage divider whose individual resistors (R1, R2, R3) are arranged so that the negative feedback of a Nernst voltage circuit and of a pump voltage circuit is optimized, in particular maximized.